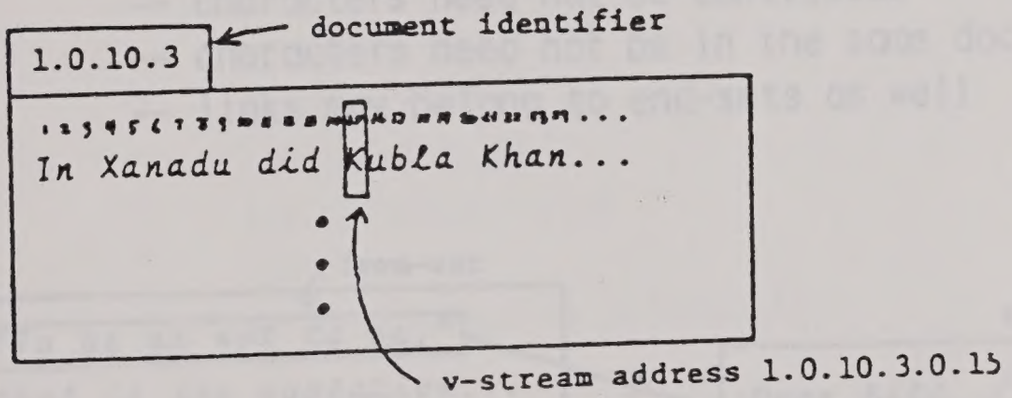
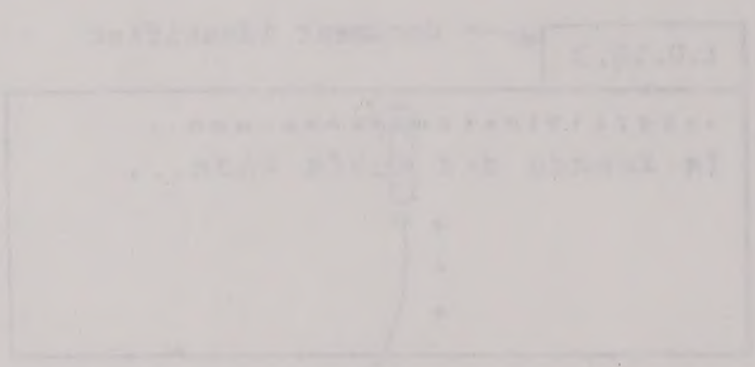
Fundamental concepts of the Xanadu Hypertext System™

- Documents
- Links
- Versions
- Multiple users
- Back-end/front-end

Documents -- storage and access

- Each document has a unique document identifier
- No a priori limitation on the number of documents allowed
- Document appears as a single block of contiguous characters
  (or other data bytes)
- Characters individually addressable by v-stream address

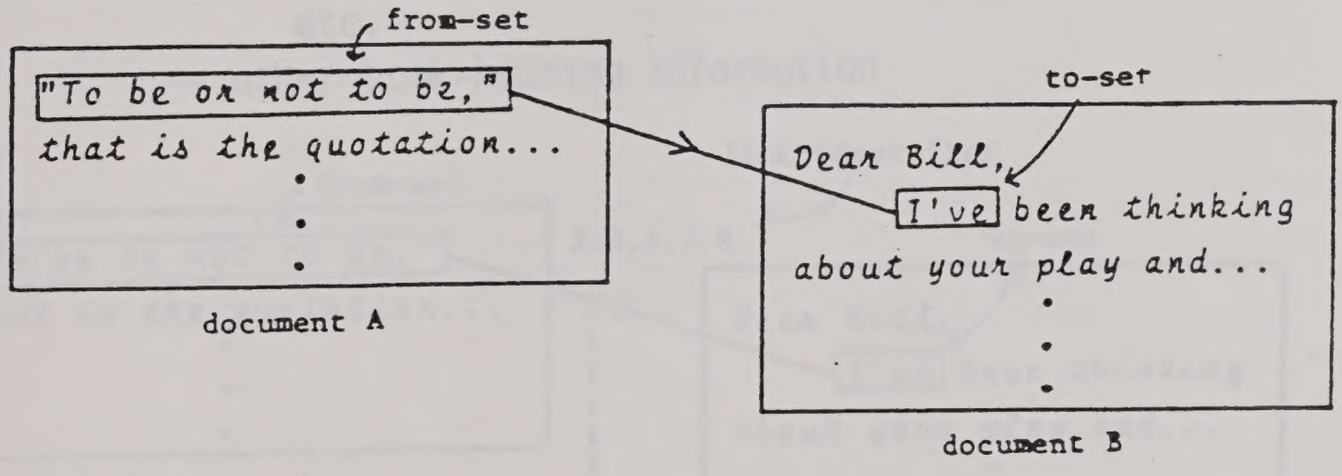




Links

Link: an explicit logical connection between one set of arbitrary characters and another.

- Each link connects a pair of sets of characters (the end-sets)
- One end-set is called the from-set, the other is called the to-set -- link goes from the from-set to the to-set
- Contents of end-sets may be totally arbitrary
  - -- characters need not be contiguous
  - -- characters need not be in the same document
  - -- links may belong to end-sets as well

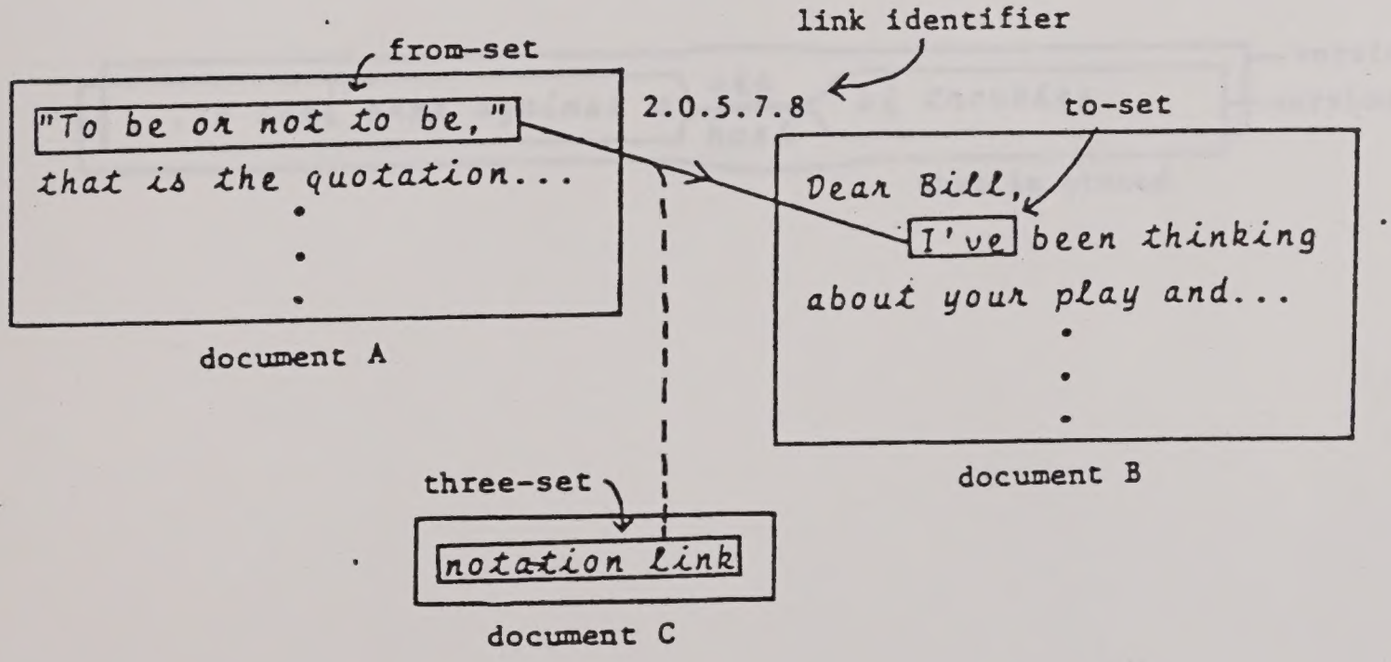


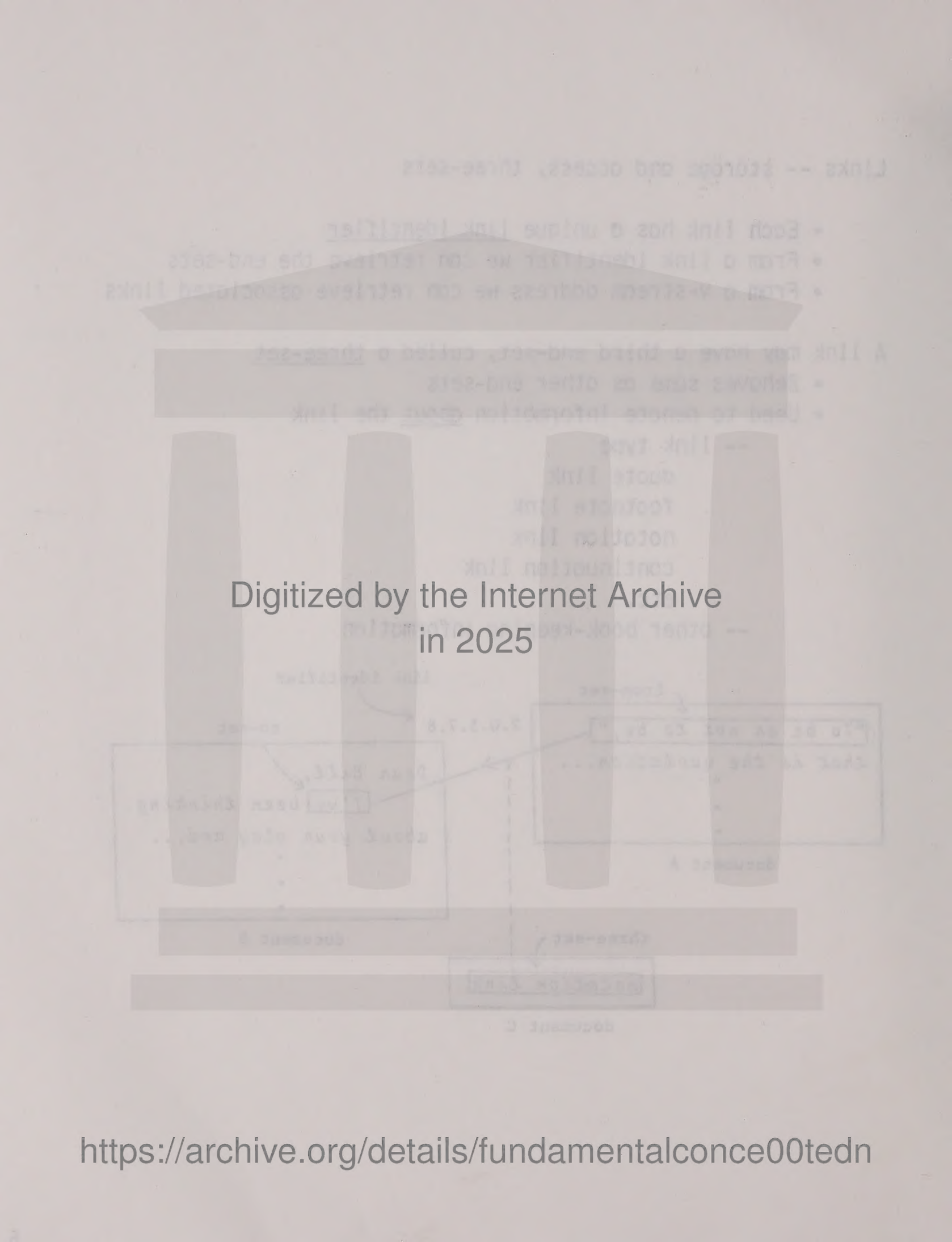
Links -- storage and access, three-sets

- Each link has a unique link identifier
- From a link identifier we can retrieve the end-sets
- From a v-stream address we can retrieve associated links

A link may have a third end-set, called a three-set

- Behaves same as other end-sets
- Used to denote information about the link
  - -- link type
    - quote link
    - footnote link
    - notation link
    - continuation link
    - etc.
  - -- other book-keeping information





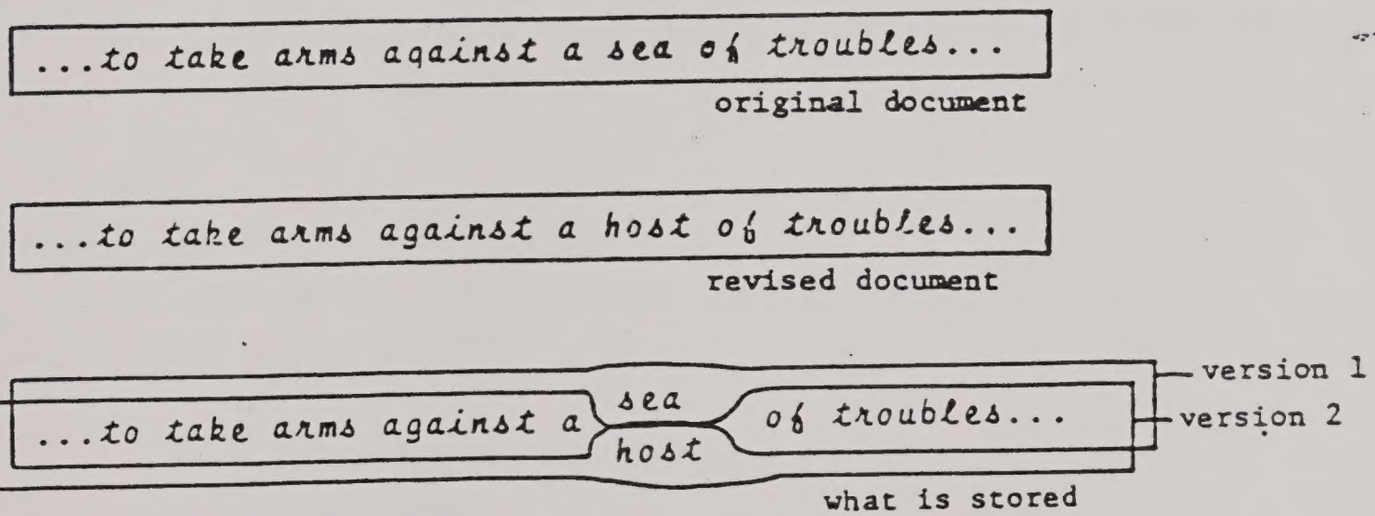
Digitized by the Internet Archive
in 2025

https://archive.org/details/fundamentalconce00tedn

Versions

The Xanadu Hypertext System™ can store multiple versions of any document

- Portions common to alternate versions stored in common
- Links to or from a document are maintained in new versions
- System can provide full historical traceback information
  - -- what versions preceded a given version
  - -- what changes made the versions differ



Multiple users

The Xanadu Hypertext System™ can manage documents and links belonging to multiple users.

- Documents and links may have owners
- You cannot access or learn about another user's documents or links unless the owner has granted permission
- Privilege to access a document or link may be granted to specific users or to everyone

The current implementation

Back-end

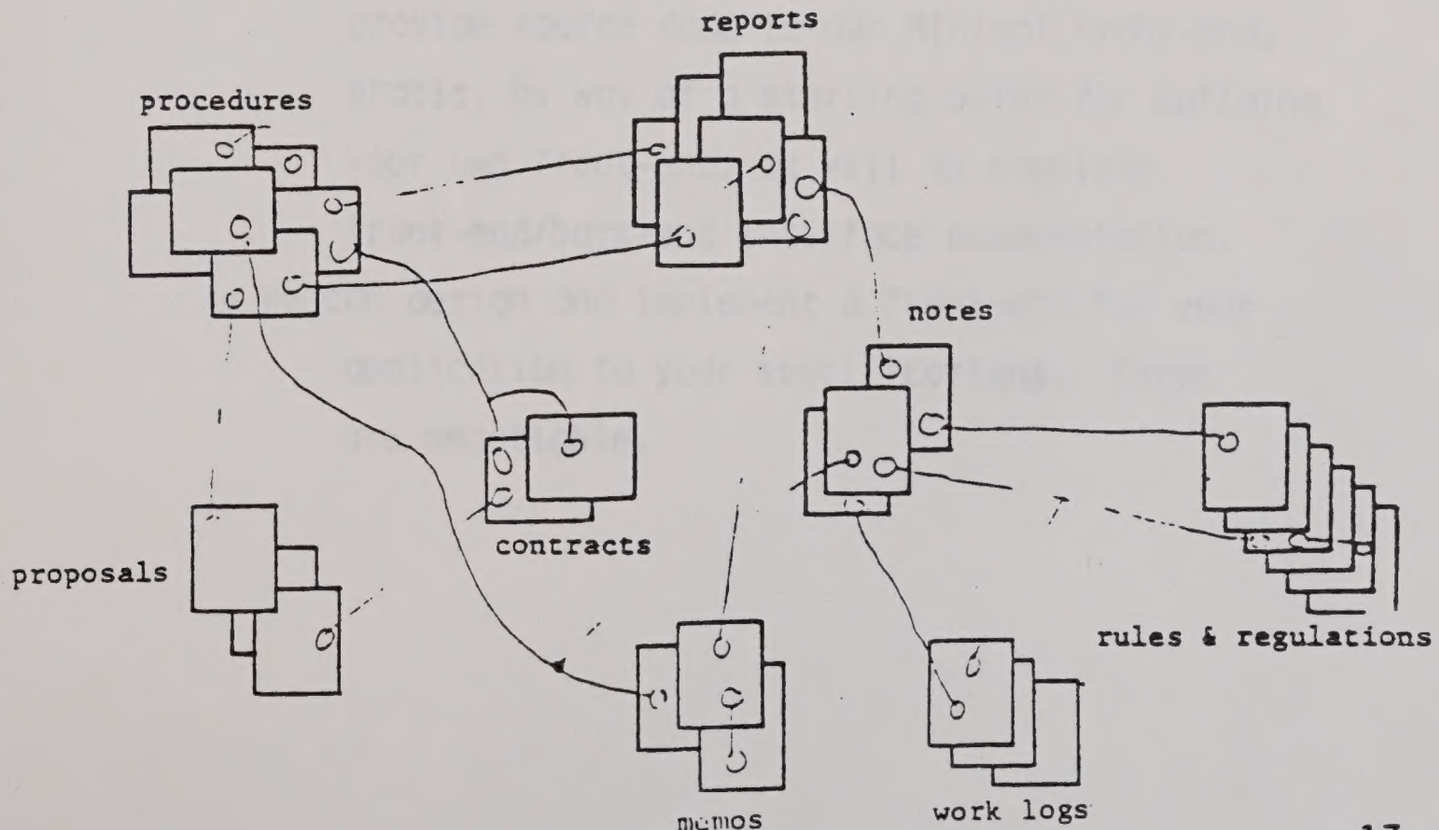
- Written in "C" and running on an Onyx C8002 (Z8000) under Unix
- Will run with minimal change on almost any 16- or 32-bit computer that has Unix
- Requires
  - -- reasonably fast CPU (especially for I/O)
  - -- address space larger than 64K
  - -- large disk sufficient to hold all of one's documents
- Everything works except multi-user capability and versions
- Prototype system with many possible performance enhancements—yet to be implemented

Front-end

- Also written in "C", runs on Onyx as separate task
- Minimal functionality
- Can
  - -- display documents and links
  - -- follow links
  - -- edit documents
  - -- create new links
- Cannot
  - -- create new versions of documents
  - -- cope with multiple versions already present
- Prototype intended for debugging back-end and as a starting point for future "real" front-end work

Using the Xanadu Hypertext System™ in information management

- Everything stored as documents
- Pieces that go together are tied together with links
- Documentation is linked to the things documented
- Various versions of everything managed automatically
- Users can make private versions of things for working upon
- Written communications can be transmitted between involved individuals
  - -- memos
  - -- reports
  - -- work assignments
  - -- planning conferences
  - -- etc.
- Managers can monitor what is going on



A proposal

We are offering a Xanadu back-end system

- Fully functional
- Multi-user
- Fully supported
- Installed (object code only)
  - -- at your site
  - -- on suitable hardware of your choice
- With full documentation

to store and manage text of all sorts to help you reduce your information handling problems and paperwork.

Front-end arrangements are flexible

- You may, if you wish, develop your own. We will provide source code to our Minimal Front-end, gratis, by way of a starting point for building your own front-end, as well as complete front-end/back-end interface documentation.
- We can design and implement a front-end for your application to your specifications. Terms are negotiable.